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A CONCEPT AND PLAN FOR THE DEVELOPMENT OF THE LOWER MAINLAND REGION OF BRITISH COLUMBIA

CHANCE AND CHALLENGE

HOME

A CONCEPT AND PLAN
FOR THE DEVELOPMENT OF THE LOWER MAINLAND REGION

CONTENTS

- The Region and its Growth 3
- The Regional Concept 6
- Working Principles 14
- The Proposed Regional Plan 18
- Chance, Challenge and Response 23

Progress of Regional Planning 24

CHANCE AND CHALLENGE

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LOWER MAINLAND REGIONAL PLANNING BOARD

DECEMBER, 1963
NEW WESTMINSTER, B.C.

J. W. WILSON, EXECUTIVE DIRECTOR

LOWER MAINLAND REGIONAL PLANNING BOARD

426 COLUMBIA STREET NEW WESTMINSTER, B.C. TELEPHONE LAkeview 1-4828

December, 1963.

To the Municipal Councils
of the Lower Mainland Region:

Your Worships, Ladies and Gentlemen:

On behalf of your Lower Mainland Regional Planning Board I present this Proposed Regional Plan for your study and comment. Prepared by the Board's staff, it will not be considered officially by the Board until your views have been received. In the meantime the Board will seek the views of the general public in order to have a broad view of the acceptability of the Plan's proposals.

I urge you to give serious thought to the Proposed Regional Plan. You may not agree with parts and details of it, but you will find that in general its potential advantages to the region are obvious: home-builders would know where they might expect urban services; mortgage lenders would know the prospects for areas they might develop; municipalities would know where their services should be provided and the waste of sprawl would be eliminated; school boards could predict school needs with confidence; taxpayers would know that their tax monies were spent in an informed and systematic way; municipal lenders and their guarantors would know the plans and total commitments of their clients; and the region's prospects for industrial development would be enhanced.

In short, all concerned would have a much clearer picture of the real prospects for the region and would be able to conduct their businesses and carry their responsibilities with greater confidence and efficiency.

Yours sincerely,

W. R. Jack

W. R. Jack,
Chairman

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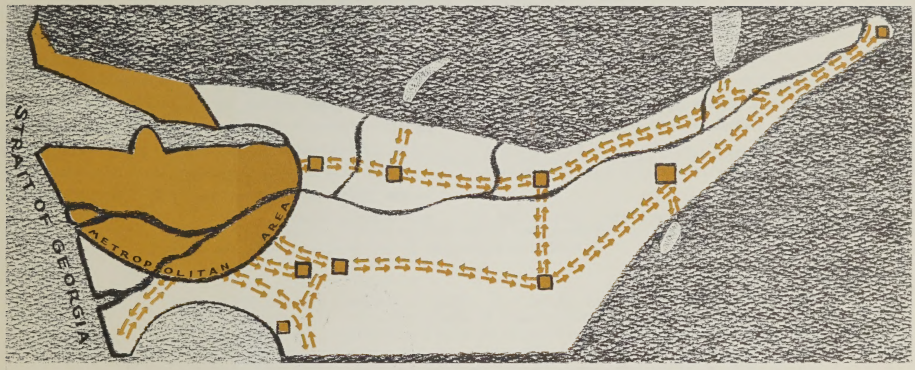
THE REGION AND ITS GROWTH

The Lower Mainland Region plays several roles. It is Canada's gateway to the Pacific Rim; it is a major centre for tourism and for the manufacture of wood products; it is British Columbia's prime distribution centre for supplies and services; and it is the home of half of the province's population — nearly a million people. These are vital and expanding roles for the country, the province and the regional community.



THE REGION IS A UNITY

This region is a unity, but a unity of many diverse parts, and between its parts there is constant exchange of people, goods and money. The rural areas send in farm products which support city industries and feed city dwellers. The city in return sends out goods and services to the rural areas. ("Every time someone buys a can of beans in Abbotsford, a cash register rings in Vancouver.") The city provides jobs for many rural residents, while in the metropolitan area municipal boundaries mean nothing to residents, who cross and recross them daily. Centres like Chilliwack, Mission and Langley City provide their districts with shops and medical services, farm markets and auctions, local newspapers and recreational centres; they, in turn, look to the metropolitan area for their wholesale supplies and services. City dwellers relax in the parks and lakes of the Valley; rural residents attend shows and events that only the larger centres can promote. And vital to all are the highway, railway, electric and telephone networks which enable all these movements and exchanges to take place and thus bind the region and its parts together.

Because the region is long, irregular in shape and broken up by rivers, this interdependence may not be easily apparent, but it is real nonetheless. No part remains unaffected by events in other parts; the destiny of one is the destiny of all.

THE REGION IS LAND POOR

Underlying this common destiny is a fact of great significance: the region is land-poor. Its stock of usable land is very small — less than 800 square miles, or about *one-fifth of one per cent of the area of British Columbia.* On this tiny enclave, surrounded by mountains, sea and an international boundary there are already more people per square mile, overall, than there are in Holland, the most densely populated country in Europe: 1,070 people per square mile here; 905 in Holland, in 1960. Its shape disguises the fact that if the region were circular its radius would be a mere 16 miles — the distance from New Westminster to Point Grey in the west or Langley City in the east.

Yet the region's population will continue to grow. About a third of a million people will be added every decade — roughly 100 per day — until by the century's end there will be 2.2 million people in the region, that is, 1.3 million more than there are now. As a result, the pressure on land will rise tremendously. Today there is about half an acre of land for each person in the region; by century-end this will have dwindled to one city lot per person.

This fact, which accounts for the relatively high cost of land throughout the region, does not imply a scarcity of land for building on. It means a generally limited supply for all purposes — living, working, raising crops, and playing — and it stresses the need to use the region's land resources thoughtfully, with an eye to tomorrow as well as today.

LESSONS FROM THE PAST

Against these prospects it is wise to take stock of development to date in the region. It is a sobering exercise. The compelling fact of recent years has been urban sprawl, a beguiling, dangerous growth with all the consequences of fire. And as the record shows, the region has not yet come to respect the fire and handle it safely:

- It has produced serious servicing problems — water supply, sewers, road paving and public transit, for example — which bedevil the Councils and taxpayers in many areas.
- It has produced in many places living conditions which are unsafe and unhealthy as well as inconvenient.
- It has wiped out potential key sites. In the last decade the region has lost several airport sites and hundreds of acres of potential industrial land.
- While devouring new land on a grand scale, it has left a vast patchwork of unused land in its wake. If the 10,000 scattered acres of vacant residential land in the Burrard Peninsula, the North Shore and Richmond could be re-assembled in one block it would measure five miles by three; but they cannot thus be reassembled.
- It undermines the whole economic pyramid based on agriculture, which directly or indirectly supports 20 percent of the jobs in the region, and it makes the region unnecessarily dependent on other areas for its food supply.

This haphazard kind of growth is not giving the citizens of the region either a satisfactory environment today or the assurance of a better one tomorrow. The region is small and our land needs are many. These needs cannot be satisfied by the uncoordinated actions of a million people and 28 municipalities any more than cars and pedestrians can be left to sort themselves out at busy intersections. An overall strategy for development is needed, so that the region may play its many roles effectively. Its business and distribution centres, harbours, industrial areas, residential districts, beauty spots and farmlands must be welded into a pattern that is functionally efficient, livable and economical.

This is the objective of a Regional Plan.

THE REGIONAL CONCEPT

There IS a rational way for the Lower Mainland to develop. It can and should develop as a series of cities in a sea of green — a valley of separate cities surrounded by productive countryside and linked by a regional freeway network.

This Regional Concept, which is illustrated in the diagram, is based on two ideas:

- the need to BUILD LIVABLE CITIES
- the need to RESPECT THE LAND

THE REGIONAL CONCEPT

A LONG RANGE CONCEPT FOR THE DEVELOPMENT OF THE LOWER MAINLAND

The Regional Concept reflects two main ideas: (1) the development of a number of Valley Cities of limited size surrounded by belts of farmland, and (2) a regional freeway network linking these cities. The Concept is primarily illustrative and has been simplified for that reason. It should not be interpreted in detail at any point. However, the belts of farmland coincide with actual floodplains and fertile areas, while the Valley Cities occupy infertile uplands. It does not show regional parks, which can be seen on the Proposed Regional Plan.

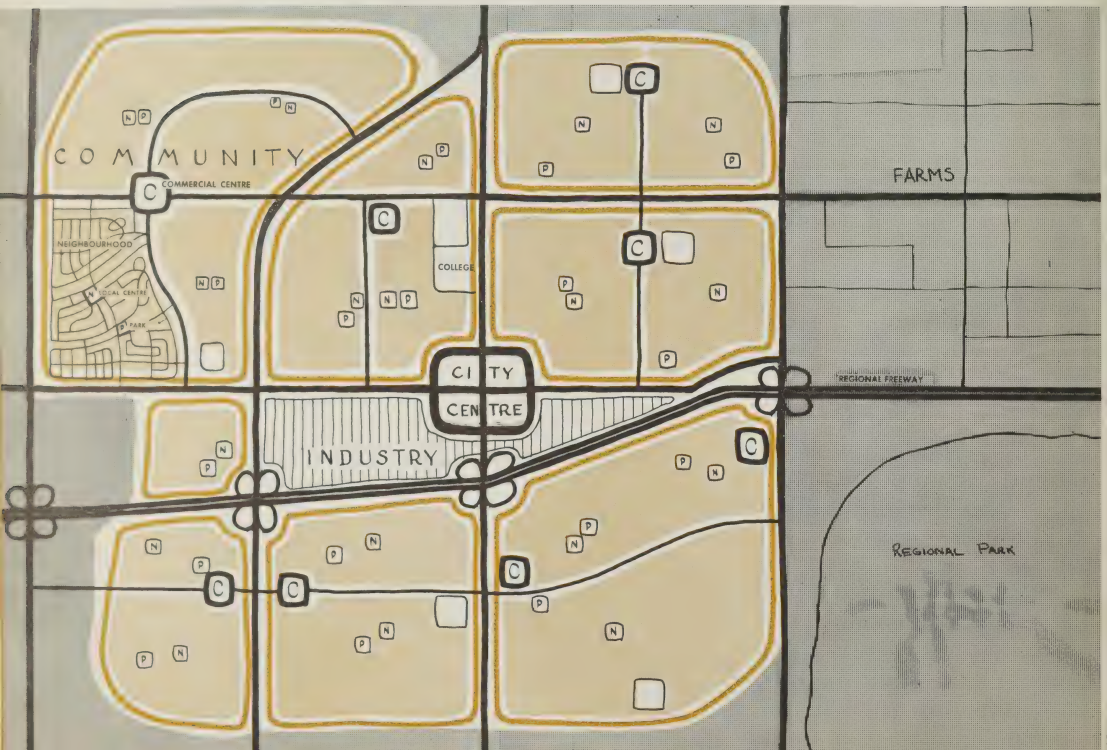
The Valley Cities, most of which could be in the 100,000 population class, should have their own City Centres. These could either spring from existing commercial nuclei or be developed from scratch. The new Centres shown are indicative only. The following diagrams show in greater detail the characteristics of the ideal Valley City.

The freeway network should join the City Centres and serve other focal points such as industrial areas, airports and major parks. Where possible the freeways should be used as boundaries between urban and rural lands. The general spacing of the freeway network shown is based on U.S. experience; actual routes would depend on the location of the City Centres and engineering factors. The network in the Burrard Peninsula is based on *Freeways with Rapid Transit*, by the Metropolitan Highway Planning Committee, 1959.

The following applications of the floodplain principle are implied in the Concept: All existing communities will continue to develop in accordance with their natural functions.The major questions arise over Richmond and West Delta, whose earlier functions could be overrun by expansion of the metropolitan area. Richmond has been shown as largely Urban, because most of it is already committed to urban development and its industrial areas are crucial to regional development. West Delta should not be urbanized in the foreseeable future apart from its industrial areas on the Fraser, which should and will be developed as such. Its lowland areas contain some of the oldest and most productive farms in the region and are pre-eminently suited to certain crops because of the sea-moderated climate: they have not been extensively subdivided apart from the Ladner area; and they have nothing to offer for residential development that Richmond, several miles closer to the metropolitan centre, does not also have. Thus from the regional point of view, as well as the Delta taxpayers', West Delta should not be urbanized now.

BUILDING LIVABLE CITIES

In the space of the next generation — it is only 36 years to the end of the century — one and a quarter million more people will have to be accommodated in the region. Many of them will attach themselves to existing urban communities, but many others will settle in areas not yet built up. For them in particular we have the opportunity to build better communities than we have done in the past. What should we strive for in these future Valley Cities?



They should be of limited size: if too large they will become over-congested at the centre and suffer big-city traffic problems; if too small they will not be able to support adequate stores and commercial services, and their citizens will have to travel outside for ordinary daily and weekly needs. These criteria, when worked out in detail, suggest that new cities should contain about 100,000 or more people, that is, be about the size of Greater Victoria. At this size also the provision and maintenance of public services and facilities is believed to be more economical than for larger cities; and its citizens are more likely to be able to "grasp" such a city and identify themselves with it.

They should have as much economic independence as possible. This does not deny that in a modern region the metropolitan core is the dominant centre for employment and many job opportunities can be found only there, or that nowadays people are willing to live many miles away from their work. Nor does it overlook the fact that such a city is certain to have many of its own "service industries" and to that extent provide some of its own employment. It merely recognizes that nearby industrial jobs would be a great asset to local residents — who naturally tend to settle near their work — as well as to the municipality. What is implied is not self-contained "new towns" but distinctive cities with some industrial base of their own.

They should contain a variety of housing types — certainly a wider variety than is available today with its undue emphasis on the owner-occupied, single-family house. In order to suit the needs and purses of their residents they should contain more garden apartment and terrace houses and more rental housing.

Each City should have a well organized structure with all the major elements — neighbourhoods and communities, commercial centres, industrial areas, parks, colleges and highways — suitably related to each other. Each should have, in addition to smaller shopping centres, a City Centre — its own Downtown — which should be served by the highway and freeway network so that all City residents can reach it in less than, say, 15 minutes.

They should have access to major parks and open spaces. This could be achieved by systems of regional and city parks. However, both this objective and that of limiting the size of the community would be helped if the cities were surrounded by inviolate farmland.

They should be connected by a transportation network to each other and to other parts of the region. The inter-dependence of all parts of the region has been stressed, and the need for people to be able to move easily from one part to another — from home to work, to shops, to entertainment, to parks; from the farm to the city; from the city core to the rural customer; from one community to another. Modern urban life depends on the ability to move freely, chiefly by means of the automobile. Thus a transportation network must be an integral part of the design for each city as well as for the region.

RESPECT FOR THE LAND

The land demands respect; respect both for what it can do FOR and what it can do TO society. This respect suggests two general principles which should guide the development of the region both now and in the long run.

FARMLAND SHOULD BE CONSERVED AS FAR AS POSSIBLE.

Some soils are fertile and others barren; some will yield crops and income, others will not. Normally both can be built on, but in the first case something of value is destroyed in the building. It takes thousands of years for Nature to build up six inches of topsoil; it takes one careless pass with a bulldozer to tear it off.

The region's stock of arable land is not only limited but already on the decline. Twenty years from now we will be importing most of our dairy products other than fluid milk, as well as depending on other regions for fruit and vegetables. This is not an argument for self-sufficiency in food production; it is a plea for common-sense in the use of an existing resource. It would be folly to use fertile land for building cities when unproductive land is equally available, thus robbing these same cities of a source of employment, purchasing power and fresh food. That would be cannibalism-in-the-family. From now on fertile soils should be kept for growing crops as far as possible.

URBAN DEVELOPMENT SHOULD BE KEPT OUT OF FLOOD PLAINS AS FAR AS POSSIBLE.

In 1948 the Fraser River flooded about one quarter of the Valley's cultivated land, damaged two thousand homes, forced the evacuation of 14,000 people, caused $17 million worth of compensated loss and, except for air service, cut off the region from the rest of the country for almost three weeks.

This could happen again. Based on the river's past performance serious flooding can be expected any year, since nothing has been done to improve the dykes and build flood retention reservoirs as recommended in 1958 by the Fraser River Board. This is Russian roulette on a grand scale and action along the lines suggested by the Fraser River Board is urgently required.

In any event there is a need to minimize possible damage by controlling settlement in floodable areas. One square mile of land can accommodate almost ten thousand suburban dwellers as against one or two hundred farming residents. The economic significance of this is that flood damage costs could be reduced from about $15,000,000 per square mile in suburban areas to possibly $50,000 in farm areas.* Furthermore, since the areas affected all contain fertile land, this policy would not only minimize damage to human life and property, but would also preserve the land for agriculture.

* Based on *The Report of the Manitoba Royal Commission on Flood Cost Benefit, 1958.*

BRINGING THE CONCEPT TO LIFE

In general terms the Regional Concept is completely feasible, if we wish to make it so. In other metropolitan areas lacking well defined topographic features, restriction of city size is difficult to achieve within the limits of municipal financial ability (the only major Canadian city in which it has been done is Ottawa, where the Government of Canada has purchased an extensive greenbelt around the city proper). In the Lower Mainland, respect for the land alone could produce an almost ideal pattern of urban development — a rare opportunity.

However, the Concept will not miraculously spring to life at the touch of a fairy wand. It will require, in addition to full use of the municipalities' present powers, several special steps:

Trunk water, sewerage and drainage problems. The burden of servicing new urban development falls largely on the shoulders of rapidly growing rural municipalities with relatively small populations, limited borrowing power and rural experience. Thus their servicing programs tend to be governed by their present limitations rather than their future prospects. This suggests the need for a water supply, sewerage and drainage program of region-wide scope. This would not only improve on the rash of stop-gap water and sewerage systems which are in danger of springing up; it would also help to solve many inter-municipal drainage problems — for streams are stubbornly disrespectful of municipal boundaries — which will clearly arise in the absence of an agency able to tackle them, not in pieces but as a whole.

To achieve this **the scope of the Greater Vancouver Water District and the Greater Vancouver Sewerage and Drainage District should be extended to enable them to operate, if requested, throughout the whole region.** This is not to suggest that the metropolitan municipalities should thereby be asked to subsidize the Valley. The need is for legal, administrative and technical as well as financial resources, and the Valley municipalities would be expected to carry their proper share of costs. However, if the members of the present Districts objected to this proposal, a Valley Water, Sewerage and Drainage District could be set up, sharing the staff of the existing Districts (which are already integrated administratively) but having its own financial structure. Whichever is adopted, cooperation of this kind is certainly the way both to true economy and to effective region-building.

But something else is required. Up to the present the provision of trunk water, sewer and drainage facilities has generally been treated as something apart from land development. For example, sewerage has usually **followed** development, no matter how scattered. For maximum economy, plans for these services should be based on a prior plan for land development, and the water and sewerage agencies should be involved from the beginning in the preparation of that plan. Thus **ways must be found of forming a working partnership between the planning and servicing agencies.**

Regional Parks. Several potential sites for regional parks are still unsecured for public use, notably the beach sites at Tsawwassen and Boundary Bay, and Semiahmoo Indian Reserve (now held on a short-term lease through the foresight of Surrey). In addition several publicly owned major park sites appear likely to remain undeveloped because, understandably, the few municipalities involved cannot see why they should develop them largely for the benefit of the citizens of the many other municipalities. **A Regional Park Authority is needed to acquire unsecured park sites and develop those which are regional in scope.**

Industrial and City Centre sites. Two other kinds of sites are crucially important to the development of the region — long-range industrial sites and City Centre sites. Experience has shown that zoning alone cannot be relied on to preserve such sites and it is unrealistic to expect small rural municipalities to acquire them, thus removing them for considerable periods from their own limited tax rolls.

A long-term program of site acquisition is necessary if the region is not to lose these essential sites. Such a program could be a first-class investment for the region and a great positive step towards long-term planning. Its urgency is emphasized by the fact that since the Board published *Industrial Land Prospects* in 1961, fully two-thirds (about one thousand acres) of the Brookswood area on the Langley-Surrey border has been subdivided into small parcels, thereby losing its industrial potential. This was regarded as one of the region's best medium-range industrial sites: *that was the site that was.*

River Development. The Fraser River is immensely important to the future of the region, for not only do most of the region's industrial land resources lie on its banks but it is also the main hope for the creation of new lands by reclamation. In view of this the emphasis of river administration should change from the river as such to the river **and** its land potential. This also suggests a need to coordinate the many agencies involved in the lower part of the river, which include: **two harbour commissions** (port development and administration), **the Department of Public Works** (river maintenance and improvement), **the Department of Transport** (navigation and airport development), **the Federal Department of Fisheries** (fishing control), **several provincial departments** (foreshore land administration, pollution control and dyking assistance), and almost **a dozen municipalities** (dyke maintenance and land use control). Thus a full score of jurisdictions apply to the same indivisible stretch of water.

Some years ago engineering consultants to the New Westminster Harbour Commission reported: "An estuarine port and the tidal reaches of the associated river system can be most effectively placed under a unified administration, such as may be exemplified by the Port of London Authority and the Harbour Authorities of major ports of Continental Europe."* Especially from the long-term point of view **a Fraser River Authority is needed with sufficiently broad powers to coordinate the development of the river as a whole.**

* *An introductory study for the development of the tidal sections of the Fraser River,* C.B.A. Engineering Limited, Vancouver, 1958.

Regional Planning. At the heart of regional development there must be an adequate planning program, one which has enough funds to be able to give studied advice to a region of a million people and a quarter of a million parcels of land, and one in which the most important regional servicing and development agencies participate. In neither of these respects is the Lower Mainland's regional planning program satisfactory. The Regional Planning Board's budget, which is by far the smallest of any comparable agency in either Canada or the United States, is grossly inadequate for the job to be done. Furthermore, the Board has no effective representation from any of the other regional development agencies, such as the B.C. Department of Highways, B.C. Hydro and the Greater Vancouver Water, Sewerage and Drainage Districts. **The present arrangement for regional planning must be greatly improved, both financially and organizationally.**

A moral is evident from all this. If the region is a functional unity, it must be planned, serviced and developed as a unity, not as an open hunting ground for dozens of federal, provincial and municipal activities. And the arrangements made for doing so must be in scale with the importance and prospects of the region. This will, of course, involve change. But as Edmund Burke said: "The state without the means of some change is without the means of its own conservation".

WORKING PRINCIPLES

The Regional Concept is a long-range thing which cannot be put into effect straight away. We can, however, work towards it if we recognize two facts: (1) We have a duty to make full use of the huge investments built into our existing communities. (2) We have broken urban ground far in excess of our ability to finance services — like a housewife slicing bread far beyond her butter supply — and the great bulk of this land is ill-equipped with services and therefore unsafe, unhealthy and unsatisfactory to live in. These facts give rise to two working principles which can give direction to regional development in the meantime.

THE CONSERVATION PRINCIPLE

It is not generally realized what a vast investment an urban community is. The following table gives two aspects, public and private, of this investment. The values shown are staggering not only for their regional totals but for the fact that even the smallest villages have private investment totals in the millions and public services running into miles. It may come as a shock to the Regional Householder to know that apart from his private investment of about $20,000 in property he also "owns" as his share of the community's assets 36 feet of sewer and about 60 feet each of water main and paved road, to say nothing of public buildings. Thus even as purely financial investments our communities deserve conservation and full utilization, just as our homes do. Hence the principle **"Conserve existing community values".**

Private investment in property can be affected by many municipal actions — zoning and its changes, street and traffic arrangements, building and occupancy regulations and services or the lack of them, for example — as well as by the actions of the property-owners themselves. Also, public improvements such as resurfacing of streets can trigger private improvements and lead to the refurbishing of whole areas and enhancement of their values. This can extend to publicly-sponsored programs of rehabilitation and redevelopment, the latter with massive assistance from the federal and provincial governments. In short, there are many ways of conserving the values built into our communities.

TABLE 1
URBAN INVESTMENT IN THE LOWER MAINLAND REGION, 1962*

MUNICIPALITY	PRIVATE INVESTMENT	PUBLIC INVESTMENT		
	Millions of dollars in Land & Improvements†	Miles of: Sewer & Drain	Water Main	Paved** Road
Cities				
Chilliwack	32.1	32.5	27.9	26.0
Langley	11.7	5.3	18.3	9.3
New Westminster	160.4	194.2	95.2	108.6
North Vancouver	104.3	64.4	66.3	60.2
Port Coquitlam	31.3	7.2	65.5	43.0
Port Moody	29.8	27.1	22.8	26.7
Vancouver	2800.0	851.2	824.8	798.1
White Rock	31.6	45.1	34.6	39.0
Districts				
Burnaby	550.9	197.7	312.2	250.7
Chilliwhack	53.8	17.8	99.4	136.5
Coquitlam	97.6	50.0	98.3	89.5
Delta	85.8	21.9	184.4	155.6
Fraser Mills	7.9	1.9	3.2	1.2
Kent	9.3	—	—	28.7
Langley	50.3	—	5.4	149.3
Maple Ridge	57.1	10.6	66.4	92.1
Matsqui	40.5	.8	37.5	133.0
Mission	12.4	—	20.2	33.1
North Vancouver	191.1	70.7	148.3	124.0
Pitt Meadows	7.4	—	34.0	26.8
Richmond	195.1	44.6	231.0	206.8
Sumas	24.3	—	6.2	134.2
Surrey	267.6	36.8	396.0	292.7
West Vancouver	180.2	40.8	118.8	101.7
Towns				
Mission City	14.7	20.0	14.0	27.0
Villages				
Abbotsford	7.1	2.1	11.4	3.9
Harrison Hot Springs	3.3	1.4	—	3.6
Hope	8.8	4.8	14.4	8.9
TOTALS	5066.4	1748.9	2956.5	3110.2
Average investment per household‡	$19,850	36 ft.	61 ft.	64 ft.

*Source: *Municipal Statistics, 1962.*
†These are approximate market values; twice the gross assessed values.
‡Based on average household size for Census Division 4, from 1961 Census.
**Gravel roads not included.

Similarly the huge investment in public services suggests the need for full utilization of these services. As the table below shows, even the older communities contain an amazing amount of developable land not yet built on, which means that installed services are not fully utilized and the municipality is not obtaining the full tax revenue it could from unimproved but serviced properties. This suggests the desirability of encouraging infilling in the settled urban communities. Where municipalities themselves hold vacant land not required for public purposes, they can promote infilling directly, but they should also study ways of encouraging development of privately-held vacant lands.

TABLE 2 — VACANT RESIDENTIAL LAND

MUNICIPALITY	% OCCUPIED	VACANT LAND IN 1961	
		Net acres	No. of lots*
New Westminster	98	15	90
Vancouver	93	785	4,700
North Vancouver City	77	240	1,400
Burnaby	66	2,025	12,000

*Approximate only; based on 6 lots per net acre.

Since the older urban areas contain the cores of our communities, we can neither ignore their needs nor write them off when their age begins to show. However, each being a special case, they cannot be dealt with generally. Instead, **every municipality concerned should, as part of its normal planning program, give serious and continuing attention to the full development, conservation and, if necessary, renewal of its older urban areas.**

In passing, the direct relationship between the actions of the "developed" and "developing" municipalities should be stressed. If fringe municipalities control their growth wisely, infilling in the urban municipalities will be easier; if urban municipalities succeed with infilling, the pressure on the fringe municipalities to expand will be reduced. Again the region is an indivisible whole.

THE SERVICING PRINCIPLE

The region's second task is to butter its bread — to service its over-ample stock of urban-subdivided land to decent standards. At the same time no more land should be subdivided until the present supply is substantially serviced. In short, the governing principle in the meantime should be **"No subdivision without services".** This applies to practically every community, young or old, large or small, for there is not a single community in the region which is completely serviced or, with the exception of New Westminster, even close to it.

This is an astringent remedy which would halt indiscriminate chopping up of land until our finances, private and public, have had time to catch up with our ambitions; but in the process the land made available for building would be made fit to live on. However, such a general principle requires qualification before it can find practical application, and a number of pertinent questions are now discussed.

What is meant by "services"? For residential development in relatively large communities the services shown in the table are proposed. They are generally accepted by responsible authorities on one hand, while on the other the need for them becomes all too evident to those who try to live without them. They should be regarded as prerequisites of urban life.

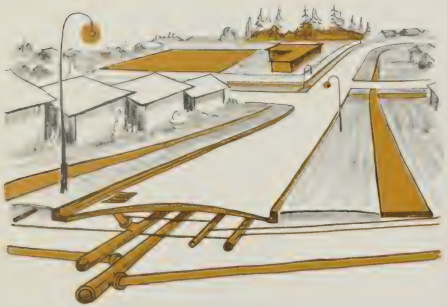


TABLE 3 — PROPOSED URBAN RESIDENTIAL SERVICES

SERVICE	PROPOSED REQUIREMENT	JUSTIFICATION
Lot Services:		
Local Streets:	Paved roadway giving two moving lanes and one parking lane; at least one sidewalk; curbs, gutters and storm sewers, depending on local circumstances.*	Safety for drivers and and pedestrians; freedom from dust and mud; durability and low municipal maintenance costs.
Water Supply:	A supply and distribution system, with no pipe smaller than 6" diameter, giving volume and pressure adequate for domestic use, sprinkling and fire-fighting.*	Public health, domestic convenience, and protection of persons and property; lower insurance rates.
Sewers:	A sanitary sewer system connected to a suitable treatment plant or outfall.	Prevention of disease and nuisance.
Street Lighting:	An adequately designed system.*	Safety for people and automobiles.
District Services:		
Fire Protection:	A firehall within about 2 miles by road.*	Protection of persons and property.
Schools:	An elementary school within ½ mile; an 8-10 room secondary school within 2 miles.	Easy and safe accessibility without vehicular transportation.
Park:	A 4-5 acre park-playground within ⅓ mile; a 25-30 acre district park within about 1 mile.	Easy and safe accessibility for children on foot.
Bus Service:	One round-trip per day within ⅓ mile of every home.	Mobility for non-car-owners, especially housewives.

* For detailed standards see appropriate technical authorities, such as: streets—the Canadian Good Roads Association; water supply and fire protection—the Canadian Fire Underwriters Association; street lighting—the Canadian Standards Association.

Are these standards applicable in all situations? Not necessarily. First, many factors can affect local needs. For example, storm drains may not be necessary in porous ground or where convenient water-courses are available; short dead-end streets may dispense with sidewalks. Thus no rigid rules can be laid down. What is important is that the **objectives** of the services be met, that is, public safety, health and convenience.

Secondly, these standards will not normally apply to small, village-size communities. But there are limits to this. Hear the warning of a public health engineer, primarily concerned with preventing disease:

> "If the population density of a community of 1,000 people is 4 persons per (taxable) acre there are almost certain to be sewage disposal problems assuming that the septic tank method of sewage disposal is used. In other words, there are almost certain to be some sewerage problems in areas similar to that of the Lower Fraser Valley.
>
> If the total population is 2,000 and the population density is 3 persons per taxable acre there are almost certain to be sewerage problems.
>
> There are a few exceptions, for example where there is relatively flat ground and where there is a sandy or gravel sub-surface with a water table at least 4 feet below the surface. (But) even here, if individual wells are used, trouble may arise . . ." (R. Bowering, Director, Division of Public Health Engineering, B.C. Department of Health, in a letter to the Board.)

The implication is clear. Depending on local ground conditions, small communities may not require services. But each has a saturation point and the pattern of development in the meantime should be watched so that when the time for servicing arrives the community will be able to stand the cost.

Is the provision of services the whole answer? Not quite. The objective is a livable **environment,** so that the problem is not one of providing specific services unrelated to one another but of providing them **together** — street services, underground services and utilities, schools, parks and firehalls; and beyond that, stores, medical-dental offices, and commercial services generally. But obviously such a variety of services does not just happen; they have to be planned in relation to the population needed to support and patronize them. Thus the whole answer is not merely the provision of services, but **systematic building of neighbourhoods and communities.**

Who would provide these services? It is generally accepted that those who profit from the sale of land should also make it fit for human settlement. Thus the developer pays for the services within his parcel. However, individual developers cannot provide either water mains, trunk sewers and treatment plants or schools, parks and firehalls. These the municipality provides. Electricity, gas and telephone are normally the responsibility of the utility companies.

How can the municipal services best be arranged and paid for? This is a technical and administrative question which is dealt with in a separate report by the Regional Planning Board entitled *A Guide to the Provision of Municipal Services.*

Can the proposed standards be achieved immediately? Generally, no. They should be applied as far as possible to all new developments of any size, but in all areas there is a backlog of services, according to these standards, which will usually take years to overcome.

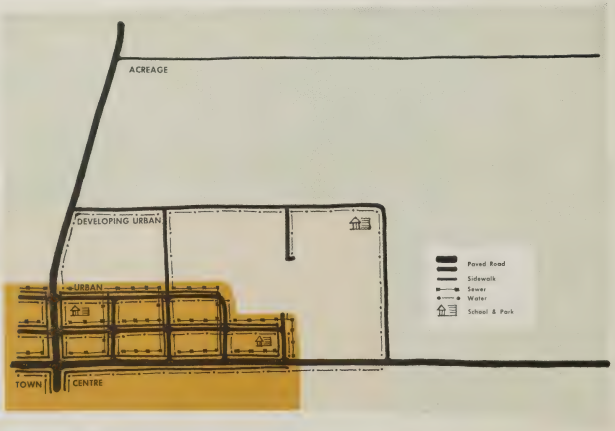
THE PROPOSED REGIONAL PLAN

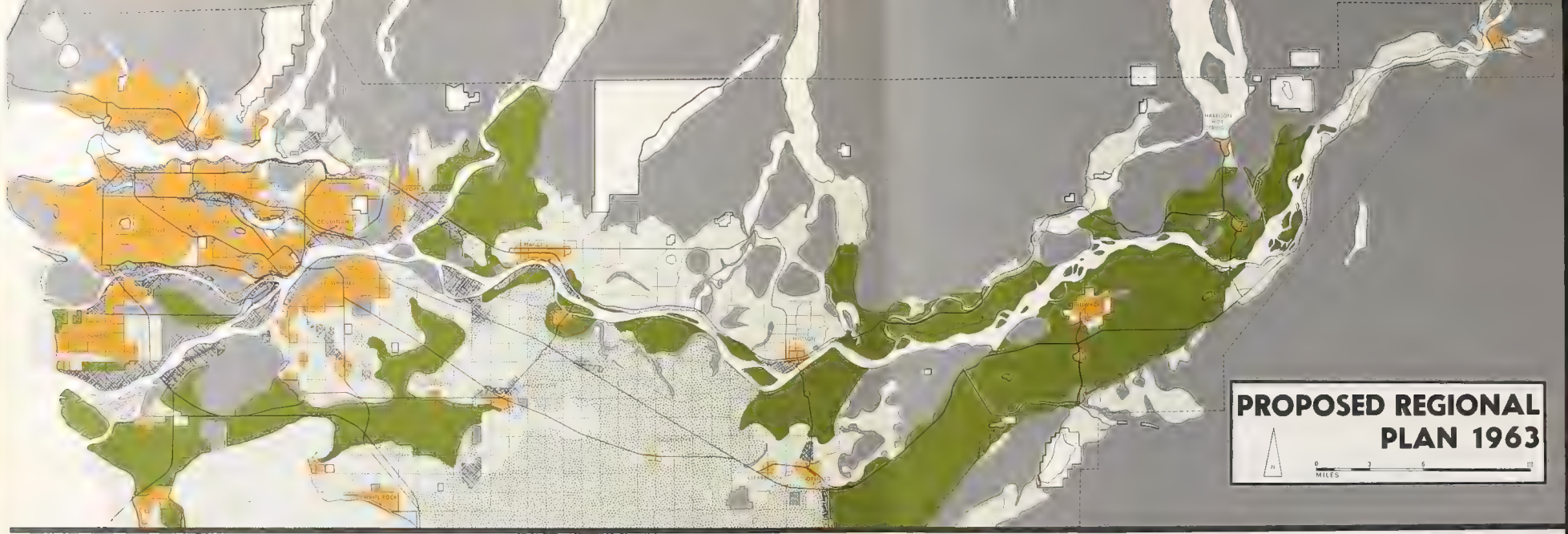
The longest journey, says a Chinese proverb, begins with a step; and realization of the longe-range Concept must begin with a first step, starting from where we are today. The Proposed Regional Plan is such a step.

The Plan is based primarily on the existing subdivision pattern throughout the region. It proposes five broad classes of Development Area — Urban, Industrial, Rural, Park and Restricted, these being broken down into further categories as necessary. For each category a Development Policy and a set of servicing standards are proposed.

The Urban and Rural categories cover the range of densities at which people settle — from Urban areas of intensive subdivision to Agricultural areas where parcels are farm-size. The servicing standards vary according to the density, since the denser the settlement (i.e. the more urban) the more intensive the services need to be. This results in a hierarchy of areas which is illustrated in the diagram below. This diagram makes two points: (1) that since the density of settlement and the level of servicing are related, the farther out from the urban centres one goes the less the subdivision density and the lower the general standard of municipal services; (2) that servicing programs should generally expand in an orderly way outwards from the urban centres.

The Development Areas and Policies are not proposed in a restrictive spirit. In fact the Urban Areas could, if fully developed, hold the region's growth for some 20 years, and it is doubtful if any substantial rise in raw land prices would occur if these Areas were not expanded for some years.

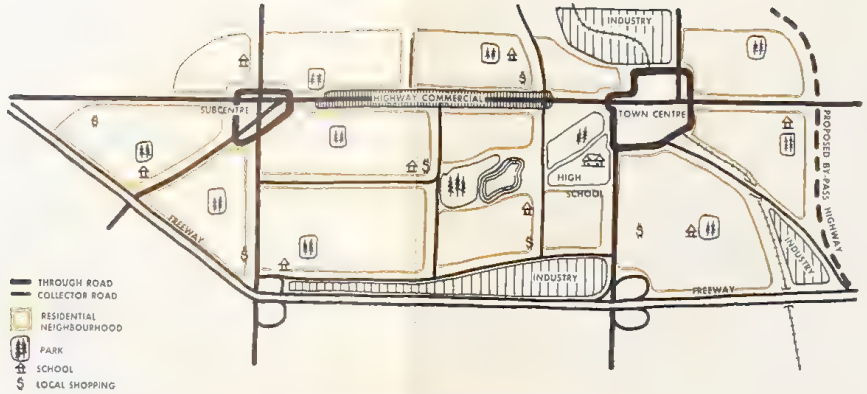




PROPOSED DEVELOPMENT POLICIES

GENERAL NOTE: BOTH AREA BOUNDARIES AND DEVELOPMENT POLICIES ARE NECESSARILY GENERAL AND SUBJECT TO ADJUSTMENT OR INTERPRETATION IN THE LIGHT OF LOCAL CONDITIONS.

	URBAN			INDUSTRIAL	RURAL	RESTRICTED			PARK		
TYPE OF DEVELOPMENT AREA	ESTABLISHED URBAN	DEVELOPING URBAN	SMALL COMMUNITY	MAJOR INDUSTRIAL	ACREAGE	UPLAND FARM	FLOODPLAIN FARM	SPECIAL DEVELOPMENT	RESERVE	SECURED PARK	POTENTIAL PARK
	Areas substantially subdivided into urban-size lots.	Areas not completely subdivided into urban-size lots but clearly destined to be urban.	Independent communities too small to require full urban services.	Areas identified as having definite industrial potential; not including small and mixed commercial-industrial development.	Areas of rural development, usually on poor soil.	Areas of agricultural development on good soils not subject to flood risk.	Areas of agricultural development on good soils subject to flood risk.	1. Areas of site difficulty (deep peat, rock, steep slope, etc.); 2. Areas not subject to municipal jurisdiction.	Areas whose best use is not yet clearly apparent; publicly owned areas not yet ripe for development.	Major parks already secured for public use.	Major site with park potential, not yet secured for public use.
LAND USE AND OTHER POLICIES	To accommodate comprehensive urban development including all types except Major Industrial; these Areas not to be expanded until they have been substantially serviced to standards described below.	Intended to receive the expansion of Established Urban Areas. To accommodate general urban development, except Major Industrial, subject to approval of standards by the public health authorities; acreage, farm and recreational developments allowed meantime. These Areas not to be expanded.	To accommodate general urban development except for Major Industrial; acreage, farm and recreational developments also allowed.	To accommodate industrial development but acreage, farm and recreational development also allowed meantime.	To accommodate all types of extensive development subject to approval of standards by public health authorities.	To accommodate agricultural and related developments and extensive recreational developments.	To accommodate agricultural and related developments and extensive recreational developments.	1. To be confined to developments compatible with site limitations; 2. Provincial and federal institutions;* areas devoted to natural resource development or conservation. *Note: Indian Reserves shown Urban, Rural or Industrial in accordance with apparent potential.	No development pending further study.	To accommodate public recreational development only.	To be secured for public recreation.
DESIRABLE SERVICES	*For residential districts:* paved roads, sidewalk, water, sewer, lights; drainage as required; school and park within ½ mile; others depending on circumstances.	*For residential districts:* paved roads; water; schools and park within ½ mile others depending on circumstances.	Paved roads; schools and other services depending on circumstances.	Paved access roads, water, fire protection; others as necessary.	Major roads paved; schools; no other local services guaranteed.	Major roads paved; schools; no other local services guaranteed.	Major roads paved; schools; no other local services guaranteed.	To be determined in each case.	To be studied individually.	Paved access road, water; other public facilities where necessary.	Paved access road, water; other public facilities where necessary.
DESIRABLE MINIMUM LOT SIZE	*For residential districts:* 5000 sq. ft. for single-family use; sizes for multi-family use depending on circumstances and services available.	*For residential districts:* 1 acre minimum or as determined under special circumstances by public health authorities.	20,000 sq. ft. or as determined under special circumstances by public health authorities.	As large as possible; 10 acres desirable.	3 or more acres depending on circumstances; 5 acres desirable.	10 or more acres depending on nature of agriculture and prevailing parcel sizes.	As large as possible; 10 acres or more desirable depending on nature of agriculture and prevailing parcel sizes.	To be determined in each case.	To be studied individually.		

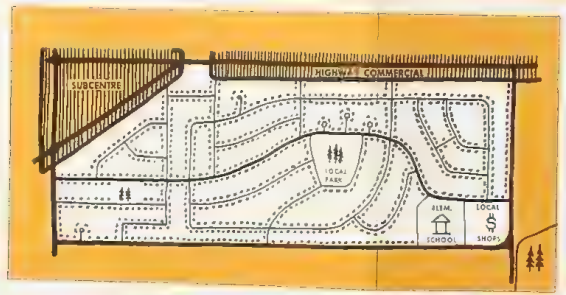


1 *The Community Plan* lays out in fair detail how the whole town should grow in the next 15 to 20 years. It shows the ultimate boundaries of the urban community, the major roads serving the area, the retail and industrial areas and residential neighbourhoods. Only a fraction of this area is now built up, the rest is still farmland or large parcels. These latter areas would in time be subdivided and built up, probably outward from the existing centres, in a manner based on economic extension of sewer and water lines, roads, etc. The zoning bylaw would direct this growth by zoning "Urban" only the areas next in line for servicing and building, but it would be amended to create more "Urban" areas as and when the need arises.

The Community Plan as laid out above, divides the community into neighbourhoods — which are normally bounded by major roads or other separating features. Each neighbourhood will require certain neighbourhood facilities either within its borders or nearby. The Community Plan indicates, without specifically locating them, the number of acres of local parkland, local shopping and elementary school grounds needed to serve the area when it builds up.

This Community Plan takes in sufficient unfilled land to absorb all the urban subdivision likely to be needed in the area for 10 or more years. Therefore present plans, zoning and subdivision controls for the areas outside its limits would be designed to protect agriculture and provide for a limited demand for small-holding properties and local "corner" commercial businesses.

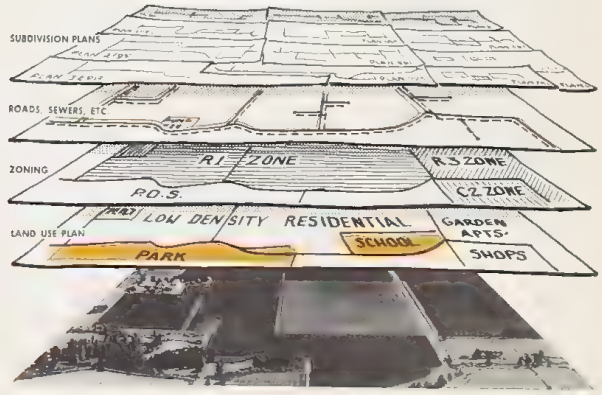
MUNICIPAL PLANS WOULD FILL IN THE PROPOSED REGIONAL PLAN. THIS IS ILLUSTRATED BY SHOWING COMMUNITY AND NEIGHBOURHOOD PLANS FOR A HYPOTHETICAL COMMUNITY.



2 *The Neighbourhood Plan.* Before an area is subdivided, the municipality should plan the overall layout and the neighbourhood facilities that will be needed. The neighbourhood plan shown would be based on a calculation of the total residential population that will eventually live there. It is then possible to design a good road system within the neighbourhood. If the existing parcels of land will be awkward to subdivide, it may be necessary to work out an overall subdivision plan as well. Schools, small parks and local shops of a size suited to the population are also worked out and shown approximately where they will fit in well with the street system and surrounding development.

This attempts, under the neighbourhood plan, to anticipate many of the local needs of the future residents and to relate these facilities to each other makes many jobs easier. Zoning can be designed to permit the progressive development of the neighbourhood, road and underground services can be installed progressively, in line with zoning and in accordance with long term plans, school and parks boards can acquire sites at the appropriate time and location, applications to build commercial facilities can be compared with the overall plan.

3 *Detailed planning.* The Community and Neighbourhood Plans in turn form a base for detailed planning operations which enable development of any part of the community to take place in an orderly way: general land-use plans, zoning maps, engineering plans for services, and private subdivision plans.



FOLLOWING UP THE PLAN

As a framework for the guidance of local development the Proposed Plan will achieve full success only if the municipalities follow it up by developing, within its guidelines, attractive and fully serviced communities and neighbourhoods. This implies the preparation of municipal plans for land use, street systems and public facilities of all kinds — parks, schools, firehalls, libraries and hospitals — as illustrated in the diagram opposite. It also implies the preparation of public works programs carefully tailored to the taxpayers' means and logically staged for maximum municipal economy. In this way the Proposed Regional Plan can act as a springboard for municipal planning and works programming; these in turn will provide firm and positive guidance to private development of land.

The Proposed Plan is not meant to be detailed. In order to allow for local conditions it requires local interpretation of both Area boundaries and Development Policies, and provided that this interpretation is in accordance with the Servicing Principle there need be little conflict between municipal and regional plans. Thus the municipalities should study the Proposed Plan in relation to their servicing programs and financial capacity, and in collaboration with the Board, define the boundaries and policies more precisely. These could then be incorporated in municipal subdivision and zoning bylaws and preferably also in Official Community Plans.

The Proposed Plan is therefore a reasonably flexible thing, to be interpreted and amended by municipalities in consultation with the Board. In any case when adopted officially it ought to be reviewed comprehensively from time to time, probably not less frequently than every 5 years and certainly when any major event or new factor appears in the region.

One point is extremely important, however. With all due respect for local characteristics there must be reasonable consistency among the municipalities as regards servicing standards. If one municipality adopts substantially lower standards than its neighbours there will inevitably be a tendency for residential development to concentrate in that municipality, at least for a time. This, of course might be welcome to all parties if one were growth-mad and the others, having already been bitten, growth-shy. But it would make a shambles of any overall plan.

CONTRIBUTORY PROGRAMS

Two working principles and some municipal actions which would give effect to the Proposed Plan have been listed. But several other agencies could help to make the Plan effective by accepting it as a basis for their own operations:

Provincial highways. A freeway network is essential, not only to accommodate automobile and truck traffic but to give the region, through the use of high-speed freeway buses, its best hope of economic public transportation. This is the responsibility of the B.C. Department of Highways, which has already built and is building substantial parts of the network. Therefore **the Department should be asked to collaborate with the Board in determining the priorities and routes of the various segments of the freeway network, in general conformity with the Regional Concept.**

Municipal borrowing guarantees. It is financially important to municipalities to have their borrowings guaranteed by the Provincial Government. If provincial loan guarantee policies were to require that municipal works programs be in accordance with the Servicing Principle and be staged within the framework of the Plan, the Plan would be immensely strengthened. **The Department of Municipal Affairs should therefore be asked to consider approving the Plan in principle and making municipal loan guarantees subject to conformity with the Plan.**

Unorganized territories. There are in the region several areas which have not yet seen fit to set up their own local government, and their affairs are administered by Provincial Government departments. Since these areas would be affected by the development policies and standards proposed, **the appropriate provincial departments — primarily Municipal Affairs, Highways and the Water Rights Branch of the Department of Lands — should be asked to consider adopting these policies and standards as a basis for their administration.**

Utility policies. Almost all development in the region is served by both electric power and telephone, and some of it by gas, and the spread of their customers is very important to the suppliers of these services. Thus **both B.C. Hydro and the B.C. Telephone Company should be asked to consider approving the Plan in principle and following it as far as possible in their operations.**

Building loan policies. Since most house building is based on borrowed money, the house and its land and services **are** the lender's investment during the repayment period. Reputable lenders are becoming increasingly concerned over the stability and durability of their investments, as is the Central Mortgage and Housing Corporation. Again the Plan would be much more effective if lending institutions were to be guided by it in deciding where to make their loans, and **the major lending institutions and the Central Mortgage and Housing Corporation should be asked to consider approving the Plan and following it in their operations.**

CHANCE, CHALLENGE AND RESPONSE

It is not without reason that this report is entitled **Chance and Challenge.**

Nature has not only given the Lower Mainland a magnificent natural setting; it has given the region an unusual dual opportunity — to build its future cities in a human way and at the same time to make the best use of its land resources. This is the **Chance**, which is described in the Regional Concept.

But this happy aspiration will not materialize at the nod of an obliging Providence. We ourselves will have to make it happen, and this in turn will be possible only if we modify certain outdated attitudes.

The region surrendered long ago to the axe and the plough, and we are now largely an urban people who number not handfuls but thousands per square mile. No man is an island here. Consequently individual INdependence, vital as it is, must be tempered by recognition of INTERdependence; we must act not less as individuals but more as members of a community. Likewise interdependence has replaced the early self-sufficiency of our local communities and they too must act not as a fortuitous collection of autonomous states but as members of the **regional community.**
The day of the governmental ghetto is past.

The cooperative steps needed to translate the Chance into reality have been outlined on these pages. The need to take these steps constitutes the **Challenge**. But chance and challenge are merely the stuff of progress; the vitalizing element is the response of the community to them.

Tuum est.

THE PROGRESS OF REGIONAL PLANNING

Chance and Challenge is the result of several years' intensive work and many published studies. The reader is referred to these studies, which are listed below, for detail and documentation which have purposely been omitted from this Report.

PARK LAND		**Land for Leisure** (1961)
INDUSTRIAL LAND	*Outlook on Industry* (1957) *Manufacturing Industry in the Lower Mainland* (1960) *The Dynamics of Industrial Land Settlement* (1961)	**Industrial Land Prospects** (1961) *Public Reactions to Industrial Land Prospects* (1962)
FARM LAND		**Land for Farming** (1962) *Public Reactions to Land for Farming* (1962)
RESIDENTIAL LAND	*Economic Aspects of Urban Sprawl* (1956) *The Urban Frontier* (1963) *The Dynamics of Residential Land Settlement* (1963) *From Countryside to Suburb* (1963)	**Land for Living** (1963) *Public Reactions to Land for Living* (1963)
REGIONAL PLAN		**Chance and Challenge,** which integrates the basic studies, sets out long-range strategy, criteria and principles, and makes short-range proposals.

To quote Winston Churchill, "This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning." This Plan, which only covers land use in a broad way, should be followed by a series of studies to give it life at the municipal level and add flesh to the skeleton. Specifically the Board should, in collaboration with the municipalities and other interested agencies, study and prepare plans for the following:

- Refinement of the proposed Development Areas and Policies (as a basis for an Official Regional Plan)
- Regional freeway priorities and routes
- Commercial areas
- Housing needs
- Residential patterns
- Highways.

If these and other studies are carried out, comprehensive regional and metropolitan plans will evolve in due course. When that day arrives it will not signify the end, for the only permanent thing in the world is change. As long as the region grows and changes, its plans must evolve with it.

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